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mathematics; physics (solid-state); translations

ND-34 NP RC

Unlimited

Agency: Picatinny Arsenal
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R-11031-D
6 Nov. 69

Title: The Passage of a Spark Discharge.
pp. 862 to 867.

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Source: Zh. Eksp. i Teor. Fiz. Vol. 17 (1947).

Language: Russian. 6pp

Special instruction: Please translate & type 1 copy only.

Construction of the Green Tensor for the Fundamental Equation of Elasticity Theory in the Case of an Unbounded Elastically Anisotropic Medium, by L. M. Litshits.
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61-13392

Noskov, M. M. and Sokolov, A. V.
 THE MAGNETO-OPTICAL KERR EFFECT AS A
 FUNCTION OF THE THICKNESS AND OPTICAL
 CONSTANTS OF THIN FILMS. II. (Zavisimost' mag-
 neto-opticheskogo Effekta Kerra ot Tolshchiny i Opti-
 cheskikh Konstant Tonkikh Ploshok) tr. by D. R. H.
 Phillips. 24 June 60, 8p. (35 equations, 3 figs. omitted)
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Trans. of [Zhurnal Eksperimental'noy i Teoreticheskoy
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The explanation of the influence of thin films on the
 magneto-optical Kerr effect comes from resolution of
 a system of Maxwell equations for the chosen model of
 the phenomenon, and reduces to a special case of in-
 terference of polarized light, in which there is rotation
 of the plane of polarisation of one of the interference
 beams owing to reflection from the magnetized mirror.
 (See also 61-13343)

(Physics--Theoretical, TT. v. 5, no. 2)

1. Thin films--Magnetic properties
2. Thin films--Optical properties
3. Title; Kerr effect
- I. Noskov, M. M.
- II. Sokolov, A. V.
- III. AER(M) TP/T-2844
- IV. DSIR L.L.U. M 2031
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61-13393

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 1 fig. omitted) 5 refs. Trafford Park Trans. no. 2843;
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- I. Thin films--Magnetic properties
2. Thin films--Optical properties
3. Title: Kerr effect
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- II. AEI(M) TP/T-2843
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(PUBLISHED THEORETICAL, ET, v. 5, no. 2)

Sobolev, N. N.
INVESTIGATION OF THE ELECTRICAL FUSION OF
THIN WIRES. Paper 60.11p. T. refs. Picatigny Arsenal
Trans. no. 110. AD-240 588
Order form LC of SLA no \$3.00, ps \$6.30. 60-23115

Trans. of Zhurnal Eksperim. i Teor. fiz.
(Moscow) 17(10) (USSR) 1947, v. 17, p. 986-997.

Results are presented of an investigation of a condenser
discharge through thin wires, obtained with the aid of
an image scanning controlled optical shutter and instan-
taneous shadow photography. At the discharge of a
condenser through a copper wire, a fusion-like dis-
persion of the material in individual fragments takes
place. This is followed by a current break, conditioned
by the occurrence of a great number of fusions; after
the latter have been filled up with metal vapors - phase
of the gas discharge. (Author)

(Physics - Theoretical, TT, v. 5, no. 3)

60-23115

1. Wire - Melting
2. Electric discharges -
Physical effects
3. Spark shadowgraph
photography

- I. Sobolev, N. N.
- II. PA Trans-100
- III. Joint Publications Research
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Calculation of the Lowest Excited Levels of the
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by A. S. Davydov.

AEC Trans (avail. Brookhaven)

Measurement of Relative Forces of Vibrators in
a Multiplex, by L. P. Penkin.

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* F. J. C. 8-1457

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61-27621

Kapitsa, P. L.
 WAVE FLOW IN THIN FILMS OF VISCOUS
 LIQUIDS. I. FREE FLOW [Volnovoe Tschenie
 Tojkkikh Sloev Vyzkol Zhidkosti, I]. [1961] (16)p.
 4 refs. C. B. Trans. 1768; [DSIR LLU] M. 3249.
 Order from OTS or S.A. \$1.60 61-27621

Trans. of Zhurnal Eksperimental'noi i Teoreticheskoi Fiziki [USSR] 1948, v. 18, no. 1, p. 3-10.
 Another trans. is available from INSDOC as T. 832a.

DESCRIPTORS: Liquids, Viscosity. *Fluid flow.
 *Wave transmission

A theoretical study is presented of the flow of films of viscous liquids under the action of a constant volumetric force and with a consideration of surface tension. An approximate solution of the equation of flow is found showing that wave flow, which was observed (Mechanics--Hydrodynamics, TT. v. 6, no. 9) (over)

I. Kapitsa, P. L.
 II. Title: Free...
 III. CE Trans-1768
 IV. DSIR LLU M. 3249
 V. Central Electricity
 Generating Board
 (Gr. Brit.)
 VI. INSDOC T. 832a
 VII. Title: Undulatory flow
 of thin layers of viscous
 liquid

185611

Office of Technical Services

Wave Flow of Thin Layers of a Viscous Liquid,
Pt. 2. Flow at Contact with a Gas Stream, and Heat
Transfer, by P. L. Kapitsa, 13 pp.
RUSSIAN, per, Zhur Eksperimental i Teoret Fiz,
Vol XVIII, No 1, 1948, pp 19-28.
AEC-tr-6179

Sci - Eng
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ZHUR EKSPER I TEORET FIZ

Vol XVIII, No 1, 1948, 10 p
pp 19-28

"Wave Flow of Thin Layers of a Viscous Liquid: II, Heat
Transfer, and Flows in Contact with a Stream of Gas"

P. L. Kapitza

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